

insurance, bringing the average annual burden to €1600 for these patients. **CONCLUSIONS:** The annual medical cost of RA is significantly lower in Turkey relative to European estimates. With higher expenditures, there is a potential for a decrease in disease activity.

## PMS25

## ANKYLOSING SPONDYLITIS HEALTH CARE COSTS AND ASSOCIATED DISEASE ACTIVITY SCORES IN TURKEY

Akkoç N<sup>1</sup>, Direskeneli H<sup>2</sup>, Erdem H<sup>3</sup>, Gul A<sup>4</sup>, Kabasakal Y<sup>5</sup>, Kiraz S<sup>6</sup>, [Durguner B<sup>7</sup>](#), Baser O<sup>8</sup>, Hamuryudan V<sup>9</sup>

<sup>1</sup>Dokuz Eylül University, Izmir, Turkey, <sup>2</sup>Marmara University Faculty of Medicine, Istanbul, Turkey, <sup>3</sup>Gulhane Military Medical Academy, Ankara, Turkey, <sup>4</sup>Istanbul University Faculty of Medicine, Istanbul, Turkey, <sup>5</sup>Ege University, Izmir, Turkey, <sup>6</sup>Hacettepe University, Ankara, Turkey, <sup>7</sup>Pfizer Pharmaceuticals, Istanbul, Turkey, <sup>8</sup>STATinMED Research/The University of Michigan, Ann Arbor, MI, USA, <sup>9</sup>Istanbul University Cerrahpasa Faculty of Medicine, Istanbul, Turkey

**OBJECTIVES:** To explore the direct health care resources associated with ankylosing spondylitis (AS) in Turkey, and establish how treatment intensity, proxied by AS treatment expenditures, affects disease activity. **METHODS:** Medical records of 650 prevalent AS patients attending seven centers at tertiary health care institutions nationwide were examined to assess the annual direct health care costs. Eligible patients were age ≥18 and diagnosed with AS for at least 12 months. To identify direct costs, overall costs were categorized as inpatient, outpatient, pharmacy and copay. Generalized linear models were used to determine factors affecting annual health care costs. Costs were adjusted by exchange rate of €1=2.30 Turkish Lira. **RESULTS:** The average patient age was 40.1±11.33 standard deviation (SD) years and 35% of AS patients were female. Average disease duration was 7.9 years and more than 25% of patients suffered from at least one comorbidity. 7.54% of AS patients received inpatient care, 92.77% received outpatient care and 95.23% were prescribed at least one medication. 66.77% of patients were prescribed disease-modifying antirheumatic drugs (DMARDs). The mean (median) annual cost per patient was €6,059 (€6,825). The most significant portion of overall expenditures was due to drug cost (€5,728), while outpatient costs totaled €254 and inpatient costs €68. Copayments were relatively low at €12.3. Age and gender had no effect on annual health care costs. 54.92% of AS patients experienced work loss due to their condition. On average, annual cost due to work loss was calculated at €412. Two percent of patients also had other AS-related consultations, which were not covered by insurance. The average annual burden for these patients was €2482. **CONCLUSIONS:** Inpatient and outpatient costs for AS patients are lower in Turkey relative to other European countries. Treatment intensity inversely affects GDA, indicating that GDA can be improved by increasing treatment intensity.

## PMS26

## LONG-TERM COSTS OF BIOLOGICS IN THE TREATMENT OF PSORIATIC ARTHRITIS IN THE UNITED STATES

Cure S<sup>1</sup>, Cawston H<sup>2</sup>, Damera V<sup>1</sup>, Tencer T<sup>3</sup>, Zhang F<sup>1</sup>

<sup>1</sup>OptumInsight, Uxbridge, UK, <sup>2</sup>OptumInsight, Nanterre, France, <sup>3</sup>Celgene Corporation, Summit, NJ, USA

**OBJECTIVES:** The introduction of biologic therapies has dramatically changed the management of psoriatic arthritis (PsA). The study aimed to estimate long-term costs of biologics in the treatment of psoriatic arthritic patients in the United States. **METHODS:** We developed a 10-year Markov model describing the treatment pathway of patients with psoriatic arthritis who had failed prior oral DMARD therapy, using monthly cycles. Clinical efficacy data were obtained from published pivotal study results and literature. Costs, resource utilisation and treatment pathways were obtained from literature and expert opinion. Patients transitioned through two lines of biologics (etanercept, infliximab, golimumab or adalimumab as first or second line) followed by best supportive care. Response to therapy was defined as the probability of PsARC response at the end of the trial period. Patients transitioned to the next line of therapy in case of non-response or discontinuation due to other causes (a short-term annual drop-out rate of 32% and a long-term rate of 16.5% were assumed). All-cause death was included and adjusted to reflect the increased mortality associated with PsA. Treatment and administration, monitoring, and hospitalisation costs were included. An annual discount rate of 3% was used. Probabilistic sensitivity analysis was conducted on key model parameters. For each first-line biologic option, average results across second-line biologic therapies were reported. **RESULTS:** From a third-party payer's perspective, the estimated 10-year cumulative direct costs per patient were \$214,642 (95% CrI: \$214,171; \$221,074) with etanercept as first-line biologic therapy, \$203,140 (95% CrI: \$202,632; \$208,398) with infliximab, \$218,703 (95% CrI: \$217,992; \$224,255) with golimumab and \$208,840 (95% CrI: \$208,192; \$215,014) with adalimumab. Across scenarios, drug costs represented between 89.4% and 91.1% of total costs, monitoring costs between 4.5% and 6.3%, and hospitalisation costs between 4.3% and 4.9%. **CONCLUSIONS:** Biologic therapies represent a significant cost burden to payers.

## PMS27

## HEALTH CARE COSTS ASSOCIATED WITH FIRST- AND SECOND-LINE SWITCHING OF BIOLOGIC DISEASE-MODIFYING ANTIRHEUMATIC DRUGS

[Rosenblatt L](#), Lobo F, You M, Hebden T  
Bristol-Myers Squibb, Plainsboro, NJ, USA

**OBJECTIVES:** To determine health care costs of patients with rheumatoid arthritis (RA) from a single health plan who switch first- and second-line biologic disease-modifying antirheumatic drug (bDMARD) therapy. **METHODS:** This

observational, retrospective analysis utilized administrative claims from a large, commercial health plan database containing insured beneficiaries between January 1, 2006 and December 31, 2010. The first-line population consisted of patients with RA, newly initiated on abatacept, etanercept, infliximab or adalimumab, with 12 months of continuous follow-up. A new second-line patient cohort was defined as those initiating a bDMARD with evidence of a different bDMARD up to 2 years prior to index date. Switching was defined as a different bDMARD claim within a 200% gap in days supply from the previous bDMARD claim. The days supply for bDMARDs was imputed based on the product label. Among switchers, the post-index period was divided into post-initiation pre-switch and post-switch periods. All post-index costs were monthly and calculated only for the time the patient was on a bDMARD. Bivariate and multivariate statistical analyses were conducted to determine costs of bDMARD switchers versus non-switchers. **RESULTS:** Patients who switched first-line bDMARD therapy had higher baseline monthly health care costs than non-switchers (\$2417 vs. \$2081; p<0.001). Post-index, first-line switchers had significantly higher costs after switch than non-switchers (\$6081 vs. \$4415), as did second-line switchers (\$8376 vs. \$5625). After controlling for potential confounders, post-switching costs were increased by 35% (least squares [LS] mean \$5693 vs. \$4224; p<0.001) for first-line switchers and by 46% (LS mean \$7799 vs. \$5348; p<0.001) for second-line switchers, versus non-switchers. **CONCLUSIONS:** Compared with non-switchers, health care costs are significantly higher for both first- and second-line switchers following switch. These findings reinforce the importance of understanding the implications associated with switching bDMARD therapy.

## PMS28

## THE PHARMACOECONOMIC AND HEALTH RELATED QUALITY OF LIFE IN RHEUMATOID ARTHRITIS (RA) PATIENTS IN A TERTIARY CARE HOSPITAL

[Nagappa AN<sup>1</sup>](#), Khara K<sup>2</sup>, Rau NR<sup>3</sup>

<sup>1</sup>Manipal University, Manipal, India, <sup>2</sup>Manipal College of Pharmaceutical Sciences, Manipal, Karnataka, India, <sup>3</sup>Manipal University, Manipal, India

**OBJECTIVES:** To determine the average cost of treatment incurred, to perform pharmacoeconomic analysis of drug therapy and to study changes in patient economic burden with disease activity for RA patients. **METHODS:** The study design was observational. Patient's bill and insurance status was collected from the finance department for 250 RA patients. Inclusion and exclusion criteria were followed as per the ACR Guidelines (1987 and 2010). Patient drug therapy and disease activity were recorded from individual CRF& hospital records. **RESULTS:** Of 250RA patients female to male ratio was found to be 3:1. 67% of patients admitted were ages b/w 40-60years. The average days of hospitalization was found to be 7 days with average bed charges of INR 649 per patient. The total cost of therapy incurred per patient was INR 8961. The highest contribution was made by medications (INR 1920/patient), biochemical investigation charges (INR1561), doctor fees (INR1006), X-ray charges (INR385), physiotherapy procedures (INR320). These charges were found to vary within the patient population group based on the stage of the disease & presence/absence of co-morbid conditions. **CONCLUSIONS:** Medication costs along with investigation charges are the highest contributors to the total expenses incurred by RA patients & has direct impact on HRQOL. These costs seem to vary from patient to patient based on Disease Activity Score and also presence of co-morbid conditions. Hence it becomes vital to diagnose and control the disease at an early stage to control the economic burden on the patient.

## PMS29

## COST OF BEST SUPPORTIVE CARE IN THE TREATMENT OF MODERATE-TO-SEVERE PSORIATIC ARTHRITIS IN THE UNITED STATES

[Tencer T<sup>1</sup>](#), Li S<sup>2</sup>, Zhang F<sup>1</sup>

<sup>1</sup>Celgene Corporation, Summit, NJ, USA, <sup>2</sup>Celgene Corporation, Warren, NJ, USA

**OBJECTIVES:** To describe the best supportive care costs of psoriatic arthritis patients following discontinuation of DMARD therapy. **METHODS:** Adult patients with ≥2 PsA diagnoses (from office visits) with continuous insurance coverage ≥ 6-month before (baseline period) and ≥12-month post-index date were selected from the MarketScan Commercial and Medicare Claims database (2005-2009). The index date was defined as the last day of DMARD coverage. Discontinuation was defined as no DMARD treatment for ≥12 consecutive months from the last day of DMARD prescription coverage. Patients were classified as having discontinued from a biologic if there was evidence of biologic DMARD use during the baseline period; otherwise they were defined as having discontinued from non-biologic DMARD. Twelve-month average costs following discontinuation were reported. **RESULTS:** A total of 1656 PsA patients met the selection criteria; 63.2% were discontinued on non-biologic DMARD therapy and 36.8% on biologic therapy. Of non-biologic DMARD users, 59.7% were on methotrexate and 40.3% on other DMARDs. Over the 12-month period following discontinuation, total costs were \$14,359 (SD: 23,375) and \$10,144 (SD: 17,312) for biologic and non-biologic users, respectively (p < 0.001). Outpatient and hospital/ER costs were significantly higher for the biologic discontinuers compared to the non-biologic discontinuers (\$7,606 vs. \$5,429, p=0.002, and \$3,439 vs. \$2,066, p<0.013, respectively) and accounted for 77% and 74% of total costs, respectively. Similarly, biologic users had higher drug costs (\$3,314 vs. \$2,649, p < 0.002, respectively). **CONCLUSIONS:** This study suggests that outpatient and hospital/ER costs account for a substantial proportion of health care costs in PsA patients who discontinued from DMARD therapy. Patients who had discontinued from biologic DMARD therapy incurred higher outpatient, hospital and drug costs compared to patients who had discontinued from non-biologic DMARD therapy.